IN THE CLAIMS:

The text of all pending claims, (including withdrawn claims) is set forth below. Cancelled and not entered claims are indicated with claim number and status only. The claims as listed below show added text with underlining and deleted text with ~~strikethrough~~. The status of each claim is indicated with one of (original), (currently amended), (cancelled), (withdrawn), (new), (previously presented), or (not entered). Please AMEND claims 1, 11, 27, 30, 31, and 38 in accordance with the following:

1. (currently amended) A method of manufacturing a gas discharge panel having a pair of substrates sealed together with a sealant and defining a discharge space therebetween, comprising :

forming the sealant in a frame-shape on at least one of the pair of substrates, and stacking said substrates, one upon the other via the sealant;

lowering a pressure in the discharge space between the pair of substrates before the sealant starts to melt, relatively to a pressure on an exterior of the pair of substrates, by starting an exhausting operation to exhaust ~~exhausting~~ the discharge space via a through hole provided in one of the pair of substrates, while heating and thereby melting the sealant and introducing gas being exterior to the pair of the substrates so as to remove an impurity in the discharge space;

solidifying the sealant so as to fixedly join the pair of substrates with the discharge space therebetween;

~~removing an impurity in~~exhausting the discharge space; and

filling a discharge gas into the discharge space.

2. (cancelled)

3. (previously presented) The method of manufacturing a gas discharge panel as recited in claim 1, wherein, in the second step, the exhausting of the discharge space for lowering the pressure in the discharge space between the substrates and the heating for melting the sealant are begun simultaneously.

4. (previously presented) The method of manufacturing a gas discharge panel as recited in claim 1, further comprising:

providing separator walls on at least one of the substrates, a height of said separator walls defining a height of the discharge space when the pair of substrates compresses the sealant.

5. (previously presented) The method of manufacturing a gas discharge panel as recited in claim 1, wherein a non-continuous barrier wall is provided beforehand in a vicinity of an interior of the sealant so as to prevent an inward invasion of the melted sealant.

6. (previously presented) The method of manufacturing a gas discharge panel as recited in claim 1, wherein:

the forming of the sealant further comprising forming a plurality of said frame-shaped sealants on said one of said substrates; and

carrying out the lowering, solidifying, removing and filling for said plurality of frame-shaped sealants and respective plurality of discharge spaces formed within said frame-shaped sealants.

7. (previously presented) The method of manufacturing a gas discharge panel as recited in claim 6, wherein said plurality of discharge spaces are provided with respective through holes in adjacent relationship, so that said exhausting and said discharge gas filling processes are carried out via a pipe connected commonly to each of the respective through holes.

8. (previously presented) The method of manufacturing a gas discharge panel as recited in claim 1, wherein peripheral portions of said pair of substrates are pinched together with temporary fixing clips.

9. (previously presented) A method of manufacturing plural gas discharge panels, each having a respective discharge space, between a pair of substrates, each panel sealed together with a sealant frame, comprising the steps of :

forming a plurality of sealant frames, on a first surface of a first substrate opposing a second substrate and stacking said first substrate onto said second substrate via the plurality of sealant frames, wherein each of the substrates has a plurality of cutting lines defining the plural gas discharge panels, formed with respective sealant frames so as to enclose respective discharge spaces;

lowering an internal pressure of each of the plurality of discharge spaces relatively to a pressure on an exterior of each of the pair of substrates so as to press the pair of the substrates together and to fix a size of the discharge spaces between the pair of the substrates and heating and thereby melting the plurality of sealant frames;

solidifying the plurality of sealant frames, once melted, so as to fix the pair of the substrates and form the plurality of discharge spaces between the pair of substrates;

removing impurities in the discharge spaces;

filling a discharge gas into the discharge spaces and sealing the discharge spaces; and

cutting the pair of the substrates along the cutting lines into a plurality of smaller substrates so as to form a plurality of individual said gas discharge panels,

wherein said plurality of discharge spaces are provided with a plurality of respective conduction pipes in adjacent relative positions to each other, each extending from an exterior of a respective gas discharge panel to the respective discharge space thereof, and so that said exhausting and said discharge gas filling processes are carried out via a pipe connected commonly to the plurality of conduction pipes.

10. (cancelled)

11. (currently amended) A method of manufacturing a gas discharge panel comprising a pair of substrates opposed to each other, one of the substrates having a plurality of electrodes on a inner surface thereof so as to produce a discharge with adjacent electrodes and the other of the substrates having on an inner surface thereof fluorescent materials of a plurality of different colors for emitting fluorescences stimulated by the discharges and a plurality of separator walls formed in a predetermined pattern separating said fluorescent materials, comprising :

forming a seal glass layer along a periphery of the other substrate, of a height greater than a height of said separator walls;

positioning the pair of substrates, in opposed relationship and separated by a discharge space of a predetermined interval therebetween, in a vacuum-heating furnace;

exhausting the discharge space between the pair of opposed substrates before the sealant starts to melt by lowering a pressure ambient to the pair of opposed substrates; and

heating said seal glass layer until said seal glass layer melts while maintaining the low pressure in the discharge space by ~~said~~ exhausting the discharge space via a hole provided on one of the pair of substrates.

12. (previously presented) A method of manufacturing a gas discharge panel comprising a pair of substrates having respective pluralities of electrodes thereon and being disposed in opposing relationship with a discharge space therebetween, comprising :

forming a seal-glass layer along a periphery of one of the substrates;

positioning the pair of substrates, in opposed relationship and separated by a discharge space of a predetermined interval therebetween, in a vacuum-heating furnace;

exhausting said discharge space via a leak clearance between the seal-glass layer and the

substrate while disposed with a furnace and which maintains a predetermined temperature within the furnace; and

lowering the pressure in the discharge space between the pair of the substrates by exhausting same via a conduction pipe, connected to a through hole previously provided in a portion of the other substrate, while the temperature within the furnace is raised to a melting temperature of said seal-glass layer to seal the substrates.

13. (presented previously) The method of manufacturing a gas discharge panel as recited in claim 12, wherein a pressure within the furnace and exterior of the pair of substrates is raised at least once after lowering the pressure exterior of the pair of substrates before melting said seal-glass layer.

14. (previously presented) The method of manufacturing a gas discharge panel as recited in claim 12, further comprising lowering the pressure via a seal-head connected to the conduction pipe.

15. (previously presented) A method of manufacturing a gas discharge panel comprising a pair of substrates defining a discharge space therebetween and having a plurality of separator walls on at least one of the pair of substrates, comprising:

forming a sealant in the shape of a frame on one of the pair of substrates;

stacking the one substrate onto the other substrate;

arranging a formed- glass-frit in a vicinity of and aligned with a through hole in one of the substrates;

heating the pair of substrates so as to raise a temperature of the pair of substrates and exhausting gas from, and lowering a pressure in, a space surrounding the pair of the substrates so as to remove any impurities in the discharge space between the substrates;

melting the sealant;

forming said discharge space to a height determined by a height of the separator walls by deforming the sealant via exhausting the discharge space through the through hole;

cooling the pair of the substrates so as to solidify the sealant;

filling the discharge space with a discharge gas introduced through the through hole in the panel; and

sealing the through hole after filling the discharge space with the discharge gas.

16. (previously presented) The method of manufacturing a gas discharge panel as recited in claim 15, wherein the sealant frame is formed of a height greater than a height of the separator walls, clips for pinching and affixing the pair of stacked substrates are located so as to press together respective central portions of the substrates within a vicinity of regions where the separator walls are to engage the other substrate, bending the central portions of the substrates in an inward direction toward the discharge space relatively to the peripheries thereof, spaced apart by the sealant frame.

17. (previously presented) The method of manufacturing a gas discharge panel as recited in claim 15, wherein the deforming of the sealant is caused by a force produced in a direction toward the discharge space from an exterior of both of the pair of substrates by maintaining a pressure in the exterior of the pair of substrates higher than a pressure in the discharge space between the substrates.

18. (previously presented) The method of manufacturing a gas discharge panel as recited in claim 15, wherein the height of the discharge space is determined by closing a portion of a conduction path, from the discharge space to the exterior of the pair of the substrates, so as to provide a uniform pressure-difference between a lower pressure in the discharge space between the substrates and a relatively higher pressure on the exterior of the pair of the substrates.

19. (presented previously) The method of manufacturing a gas discharge panel as recited in claim 15, further comprising, while heating the pair of substrates, exhausting gas from the exterior of the pair of the substrates when the sealant reaches a vicinity of a temperature at which degassing becomes active and is ended when the sealant adheres to the substrate.

20. (previously presented) The method of manufacturing a gas discharge panel as recited in claim 15, wherein a conduction pipe is connected to the through hole, a seal-head operable to exhaust the discharge space via the conduction pipe is connected to the conduction pipe, and exhausting the discharge space is carried out via the conduction pipe and the seal-head after the sealant adheres to the substrate.

21. (previously presented) The method of manufacturing a gas discharge panel as recited in claim 15, wherein, while melting the sealant, raising the pressure in the exterior of the pair of substrates to a level of pressure at which a bubble existing in the sealant does not increase in size.

22. (previously presented) The method of manufacturing a gas discharge panel as recited in claim 20, wherein, after the sealant adheres to the substrate, raising the pressure on the exterior of the pair of substrates to a level of a pressure at which a bubble existing in a sealant does not increase in size.

23. (previously presented) The method of manufacturing a gas discharge display panel as recited in 15, wherein, in the fourth step, melting the sealant at a temperature below a temperature at which softening of the sealant begins, so as to prevent a bubble in the sealant from increasing in size.

24. (previously presented) The method of manufacturing a gas discharge display panel as recited in 15, further comprising connecting a conduction pipe to the through-hole, connecting a seal head, available to exhaust the discharge space, to the conduction pipe after the sealant is solidified and cooled and introducing a discharge gas through the conduction pipe and seal head into the discharge space.

25. (previously presented) The method of manufacturing a gas discharge display panel as recited in 20, further comprising using a heater provided in the seal-head to heat and melt a part of the conduction pipe after introducing the discharge gas into the discharge space via the conduction pipe, so as to seal the discharge space.

26. (previously presented) The method of manufacturing a gas discharge display panel as recited in 25, wherein an ambient pressure on an exterior of the pair of substrates and the part of the conduction pipe to be melted is raised to a higher pressure than that in the discharge space when the part of the conduction pipe is melted.

27. (currently amended) A method of manufacturing a plasma display panel comprising a pair of substrates having a discharge space therebetween and sealed with a sealant, comprising:

forming the sealant in a frame-shape and disposing same so as to extend between the pair of substrates;

beginning exhausting the discharge space through a conduction pipe, secured to at least one of the substrates and communicating with the discharge space;

heating and thereby melting the sealant while continuing exhausting the discharge space through the conduction pipe so as to lower the internal pressure within the discharge space before the sealant starts to melt, relative to an external pressure on the exterior of the substrates, such that the

sealant, while melting, is compressed by the external pressure on the pair of substrates, sealing the pair of substrates.

28. (previously presented) The method of manufacturing a plasma display panel as recited in claim 27, further comprising:

after sealing the pair of substrates, heating the discharge space to a temperature lower than a melting point of the sealant and exhausting the interior of the discharge space via the conduction pipe, so as to remove impurities from within the discharge space and thereby purify same; and

filling the purified discharge space with a discharge gas via the conduction pipe.

29. (previously presented) The method of manufacturing a plasma display panel as recited in claim 27, wherein a leak clearance is formed between the frame-shaped sealant and at least one of the pair of substrates and the exhausting of the discharge space is performed through both the conduction pipe and the leak clearance.

30. (currently amended) A method of manufacturing a gas discharge panel comprising a pair of substrates opposed to each other, one of the substrates having a plurality of electrodes on a inner surface thereof so as to produce a discharge with adjacent electrodes and the other of the substrates having on an inner surface thereof fluorescent materials of a plurality of different colors for emitting fluorescences stimulated by the discharges and a plurality of separator walls formed in a predetermined pattern separating said fluorescent materials, comprising:

forming a seal glass layer along a periphery of the other substrate, of a height greater than a height of said separator walls;

positioning the pair of substrates, in opposed relationship and separated by a discharge space of a predetermined interval therebetween, in a vacuum-heating furnace;

beginning exhausting the discharge space between the pair of opposed substrates until said seal glass layer begins melting via a conduction pipe to introduce gas ambient to the pair of the substrates so as to remove an impurity in the discharge space, to produce a low pressure therein relative to an exterior pressure on the substrates; and

heating said seal glass layer until said seal glass layer melts while maintaining the low pressure in the discharge space by said exhausting.

31. (currently amended) A method of manufacturing a gas discharge panel having a pair

of substrates sealed together with a sealant and defining a discharge space therebetween, comprising:

forming the sealant along a periphery of at least one of the substrates, and stacking said substrates, one upon the other;

lowering a pressure in the discharge space between the pair of substrates before the sealant starts to melt, relative to a pressure on exterior of the pair of substrates, by starting an exhausting operation to exhaust ~~exhausting~~ the discharge space, while heating and thereby melting the sealant; and

sealing the pair of substrates.

32. (previously presented) The method of manufacturing a gas discharge panel as recited in claim 31, further comprising:

filling a discharge gas into the discharge space.

33. (previously presented) The method of manufacturing a gas discharge panel as recited in claim 32, further comprising:

removing an impurity in the discharge space prior to filling the discharge gas thereinto.

34. (previously presented) A method of manufacturing a gas discharge panel having a pair of substrates sealed together with a sealant and defining a discharge space therebetween, comprising:

forming the sealant along a periphery of at least one of the substrates, and stacking said substrates, one upon the other;

lowering a pressure in the discharge space between the pair of substrates relative to a pressure on exterior of the pair of substrates, by exhausting the discharge space, while heating and thereby melting the sealant;

sealing the pair of substrates, and

prior to forming the sealant, providing a barrier wall on at least one of the pair of substrates so as to prevent an inward invasion of the melted sealant.

35. (previously presented) The method of manufacturing a gas discharge panel as recited in claim 31, further comprising pinching peripheral portions of said stacked substrates together.

36. (previously presented) The method of manufacturing a gas discharge panel as recited in claim 35, further comprising using temporary fixing clips to pinch peripheral portions of said stacked substrates together.

37. (previously presented) The method of manufacturing a gas discharge panel as recited in claim 31, wherein the discharge space communicates through a through hole with an exterior of the gas discharge panel, further comprising exhausting the discharge space via a conduction pipe connected to the through hole.

38. (currently amended) A method of manufacturing a gas discharge panel having a pair of substrates sealed together with a sealant and defining a discharge space therebetween, comprising:

forming the sealant along a periphery of at least one of the substrates, and stacking said substrates, one upon the other;

lowering a pressure in the discharge space between the pair of substrates before the sealant starts to swell, relative to a pressure on exterior of the pair of substrates, by starting an exhausting operation to exhaust ~~exhausting~~ the discharge space, while heating and thereby melting the sealant, lowering the temperature to solidify the sealant for a predetermined period of time~~wherein exhausting is stopped once during a state of the sealant being melted~~; and

stopping the exhausting operation and introducing a discharge gas into the discharge space. ~~sealing the pair of substrates.~~